Finding of No Significant Impact
Eradication of Isolated Populations of Light Brown Apple Moth in California
Revised Environmental Assessment
July, 2007

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), has prepared a revised environmental assessment (EA) that analyzes potential environmental consequences of eradicating isolated populations of light brown apple moth (*Epiphyas postvittana*) (LBAM) in California. The EA, incorporated by reference in this document, is available from:

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
Emergency and Domestic Programs
Emergency Management
4700 River Road, Unit 134
Riverdale, MD 20737–1236

The revised EA analyzed alternatives consisting of (1) maintaining the Federal quarantine order without further action by APHIS (no action alternative), and (2) continuation of the Federal quarantine order along with eradication of isolated populations of LBAM in California with the use of *Bacillus thuringiensis kurstaki* (Btk) and/or LBAM-specific pheromone (treatment alternative). The revised EA evaluated the potential impacts from eradication treatments of small, isolated populations and determined that any potential impacts would be limited. Since the circumstances surrounding each isolated population are unique, each site will be considered in a finding of no significant impact (FONSI) prior to treatment. This FONSI addresses the potential treatment area for LBAM near San Jose in Santa Clara County, California including Cupertino and Sunnyvale, California (see attachment A).

Treatment in the San Jose Eradication Area

The potential treatment area has been defined to include seven different male LBAM finds just south of San Jose, California. These finds are located near Sunnyvale and Cupertino, California.

San Jose is the third-largest city in California. It is located in the Santa Clara Valley at the southern end of San Francisco Bay Area. Once a small farming city, San Jose became a magnet for suburban newcomers in the new housing developments between the 1960's and the 1990's. Today it has been dubbed the "Silicon Valley" due to the high tech businesses in the area.

Cupertino is located at the southern end of the San Francisco Bay area. The majority of the city in the Santa Clara Valley. Some of the western edges slope into the foothills of the Santa

Cruz Mountains. It is home to De Anza College as well as some high tech firms such as Apple and Hewlett-Packard.

Sunnyvale is one of the major cities that make up Silicon Valley. It is headquarters to several high-tech companies such as Maxim Integrated Products, Juniper Networks, Palm, Inc., AMD, NetApp, Spansion, Yahoo!, Mirapoint, and Ariba, Inc. The city is bordered by the San Francisco Bay and San Jose to the north, Moffett Federal Airfield to the northwest, Mountain View to the west, Los Altos to the southwest, Cupertino to the south, and Santa Clara to the east. It lies along the historic El Camino Real and Highway 101.

Within the potential treatment area there are seven individual treatment sites (see Attachment A). Each treatment site has been defined by drawing a 200 meter radius around each individual find. Additional finds, if any, within the potential treatment area will also be covered under this FONSI. The potential treatment area is located on the first page of the attachment. Following this area wide map are enlarged maps of the individual areas that will be treated. Maps of additional future finds will be made available on APHIS' website at http://www.aphis.usda.gov/plant_health/ea/lbam.shtml. The two finds located in the southwest of the potential treatment area map have already been analyzed separately under the Cupertino FONSI and therefore the maps are not included in the attachment.

All treatment sites, including any future sites, within the potential treatment area will be treated with pheromone-impregnated twist ties which will be attached to trees, shrubs, and other fixtures within the area at a rate of 250 dispensers per acre. The dispensers will be removed at the end of their useful lives. In some cases they may be replaced for additional treatments. When treatments are completed, all dispensers will be removed.

The revised EA evaluated the potential impacts of eradication treatments of small, isolated populations like the ones in San Jose. Due to the nature of the dispenser and the pheromone itself, there will be no impacts to the human environment including nontarget species because the product is contained in dispensers that are tied to fixtures and will be removed after treatment. In addition, there will be no negative cumulative effects from this action in combination with any other actions because there are no impacts to the human environment including nontarget species. The most likely impact will be the reduction of the LBAM population due to disruption of mating; eventually leading to the eradication of LBAM within the eradication area, and ultimately, within the State of California.

A no effect determination for listed species and critical habitat has been prepared because the pheromones will not affect species other than the LBAM, and the dispensers will be tied to trees and other fixtures that will remain in the treatment sites until removal after 3 months.

There are no disproportionate adverse effects to minorities, low-income populations, or children in accordance with Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations," and Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks."

This site specific FONSI was made available for a public comment period of 30 days that closed on May 23, 2008. Eight comments were received in response to the twist tie treatments in San Jose. None of the comments that were received had any specific concerns with regards to the San Jose twist tie treatment area. Several commenters inquired about twist tie applications and effects from these applications. A couple of commenters were concerned with the LBAM program. These comments have been added to the comments for the programmatic EA and will be analyzed in the response to comments for the programmatic EA.

APHIS' finding of no significant impact for this potential treatment area is based upon the expected limited environmental consequences, as analyzed in the EA. An environmental impact statement (EIS) must be prepared if implementation of the proposed action may significantly affect the quality of the human environment. I have determined that there would be no significant impact to the human environment from the implementation of the treatment alternative and, therefore, no EIS needs to be prepared.

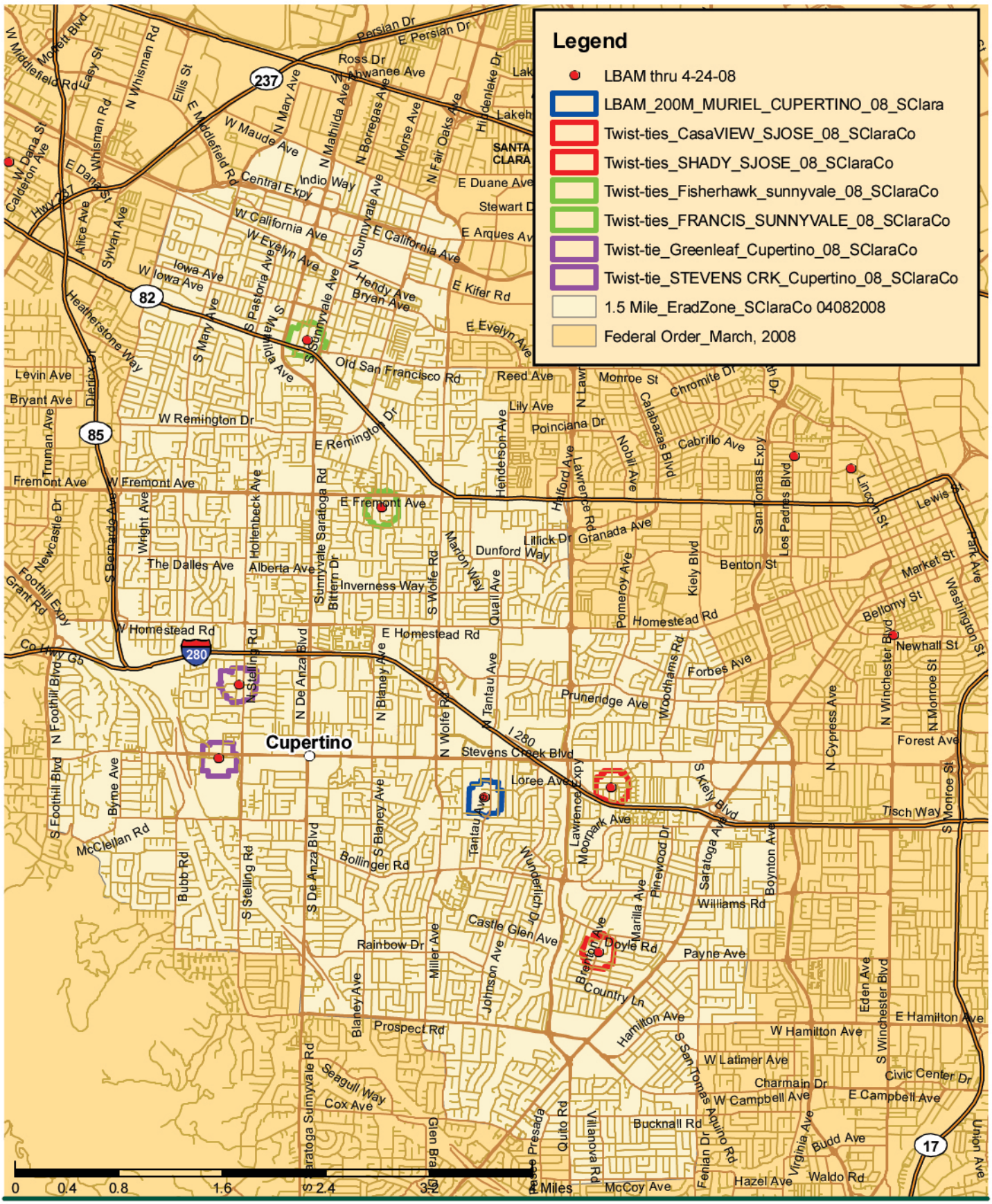
Osama El-Lissy
Emergency and Domestic Programs
Plant Protection and Quarantine
Animal and Plant Health Inspection Agency

Date: June 17, 2008

USDA
United States
Department of Agriculture

Eradication Areas for Light Brown Apple Moth
Santa Clara County, California - 2008

APHIS
Animal and Plant
Health Inspection Service



USDA, APHIS, PPQ
State Plant Health Director's Office
650 Capitol Mall, Suite 6-400
Sacramento, CA 95814

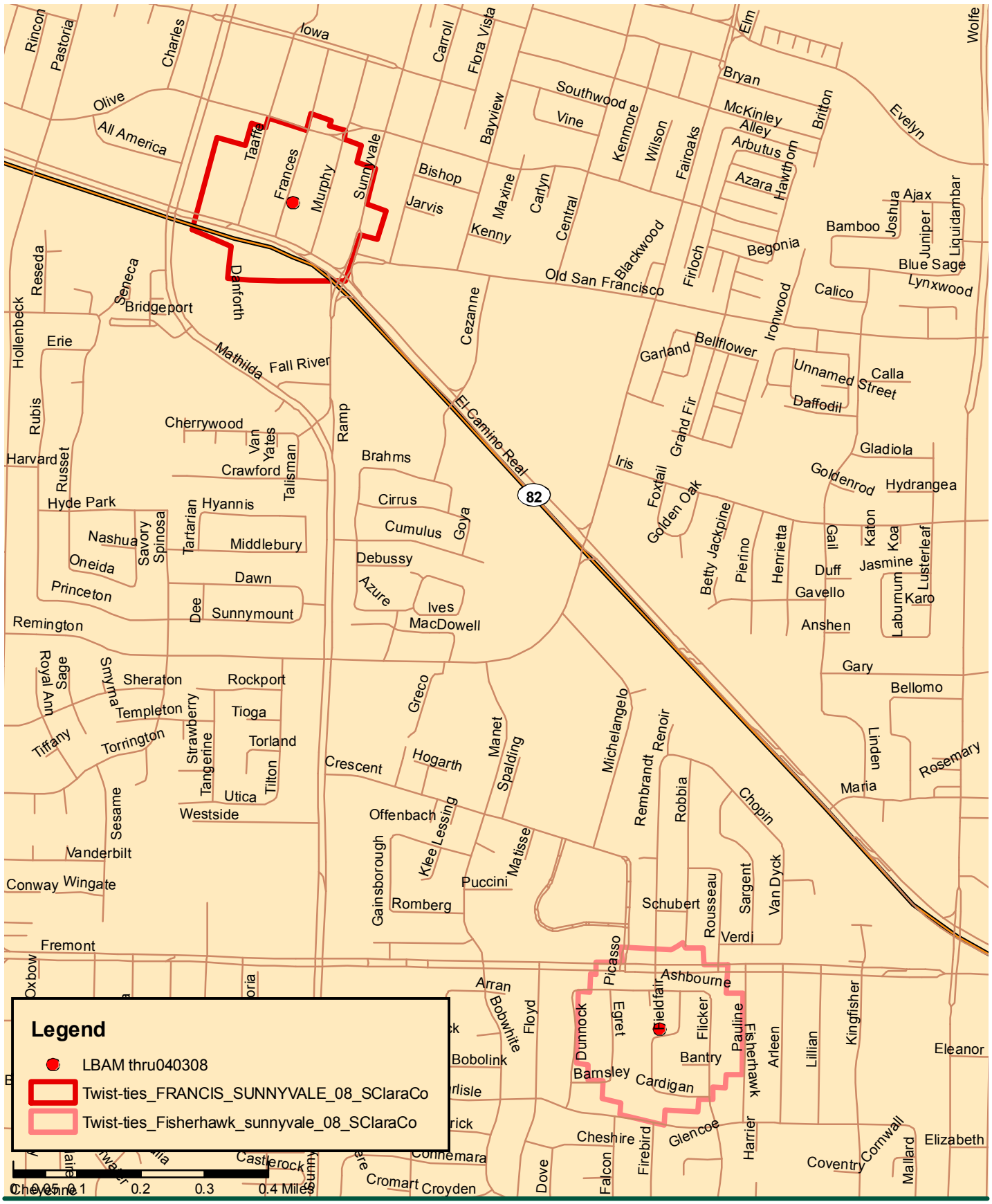
Coordinate System:
CA Teale Albers, NAD 83
Date Printed: April 25, 2008

Data Source:
CDFA - finds, quarantine
USDA - Counties under Federal Order

USDA
United States
Department of Agriculture

Eradication Areas for Light Brown Apple Moth
Sunnyvale, Santa Clara Co, California - Spring, 2008

APHIS
Animal and Plant
Health Inspection Service



USDA, APHIS, PPQ
State Plant Health Director's Office
650 Capitol Mall, Suite 6-400
Sacramento, CA 95814

Coordinate System:
CA Teale Albers, NAD 83
Date Printed: April 7, 2008

Data Source:
CDFA - 200M LBAM ground treatment
USDA - Federal Order Counties

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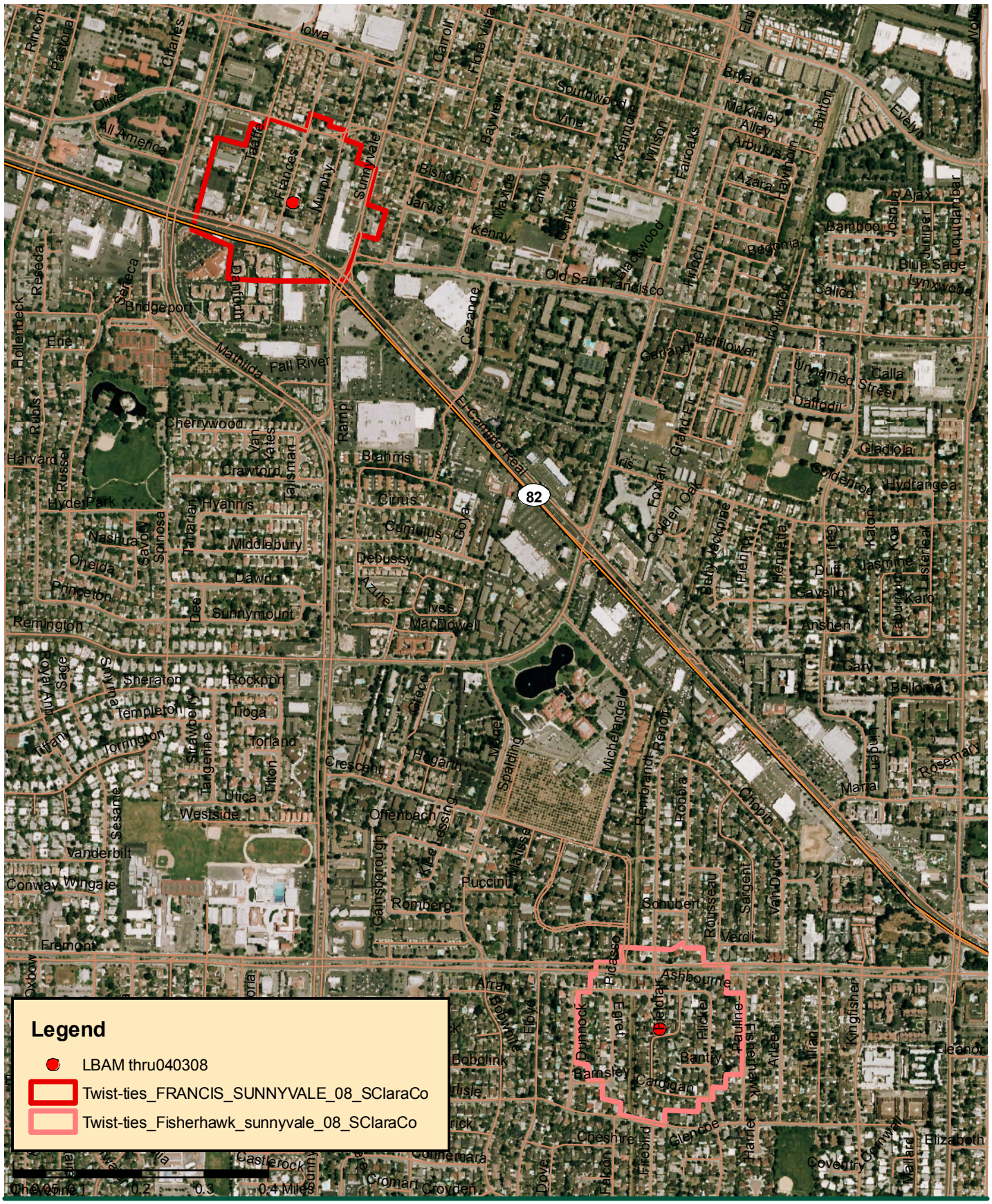
Eradication Areas for Light Brown Apple Moth
Sunnyvale, Santa Clara Co, California - Spring, 2008

APHIS
Animal and Plant
Health Inspection Service



USDA, APHIS, PPQ
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Coordinate System:
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Date Printed: April 7, 2008

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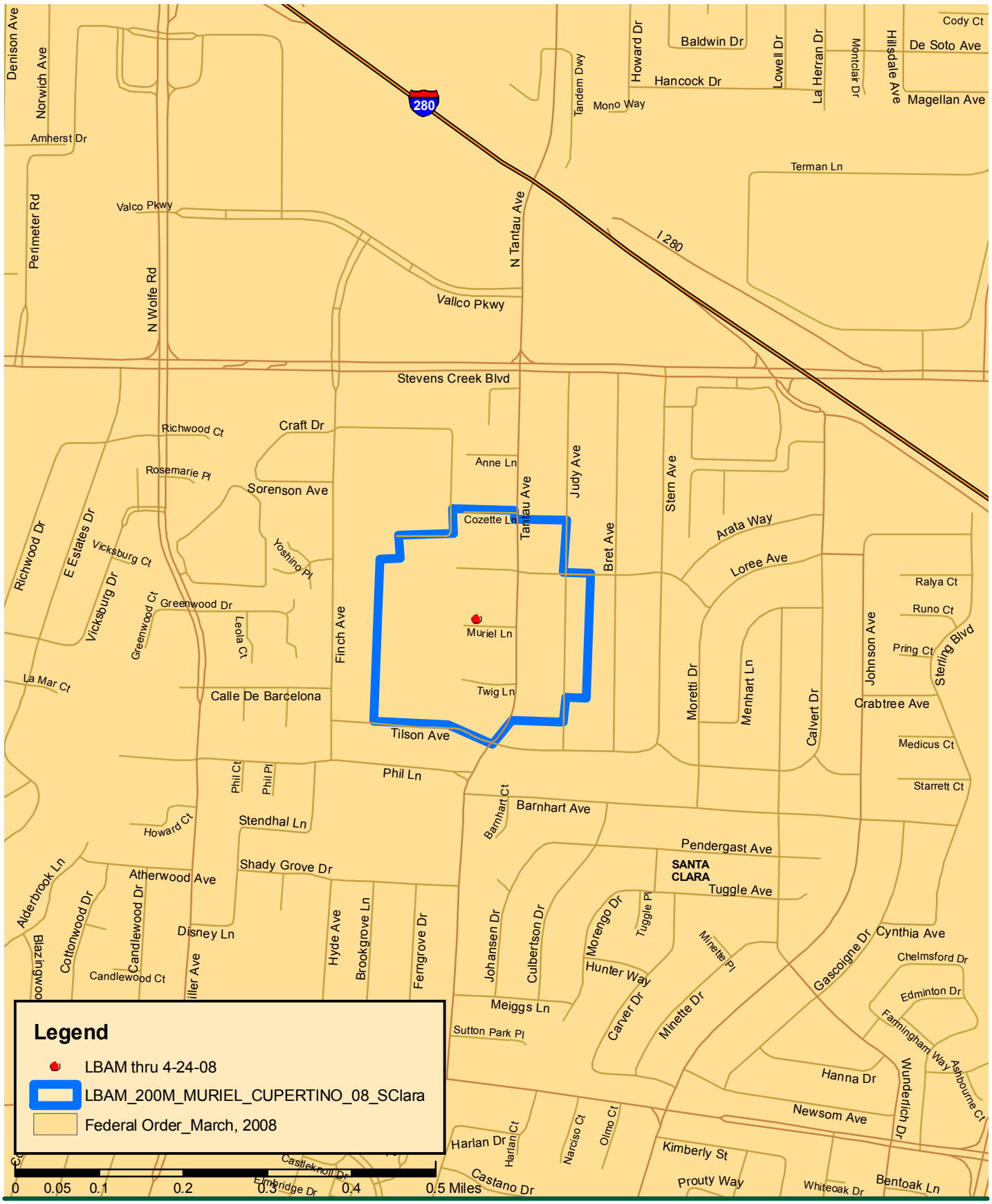
USDA
United States
Department of Agriculture

Eradication Areas for Light Brown Apple Moth
Cupertino, Santa Clara County, California - 2008

APHIS
Animal and Plant
Health Inspection Service



Legend

- LBAM thru 4-24-08
- LBAM_200M_MURIEL_CUPERTINO_08_SClara
- Federal Order_March, 2008

USDA, APHIS, PPQ
State Plant Health Director's Office
650 Capitol Mall, Suite 6-400
Sacramento, CA 95814

Coordinate System:
CA Teale Albers, NAD 83
Date Printed: April 28, 2008

Data Source:
CDFA - finds, treatment boundary
USDA - Counties under Federal Order

N

USDA
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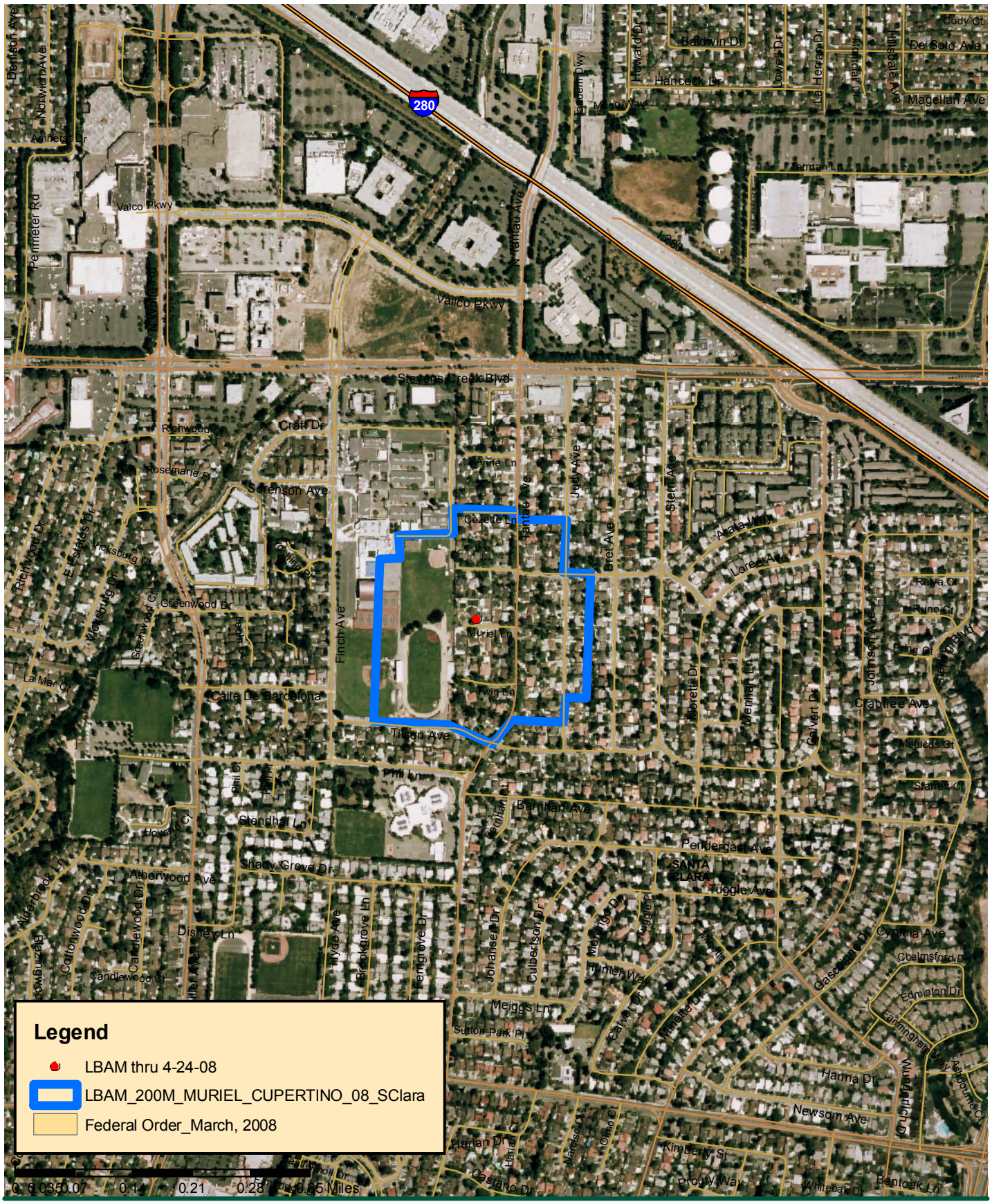
Department of Agriculture

Eradication Areas for Light Brown Apple Moth
Cupertino, Santa Clara County, California - 2008

APHIS
Animal and Plant
Health Inspection Service



Legend

- LBAM thru 4-24-08
- LBAM_200M_MURIEL_CUPERTINO_08_SClara
- Federal Order_March, 2008

0 0.035 0.07 0.14 0.21 0.28 0.35 Miles

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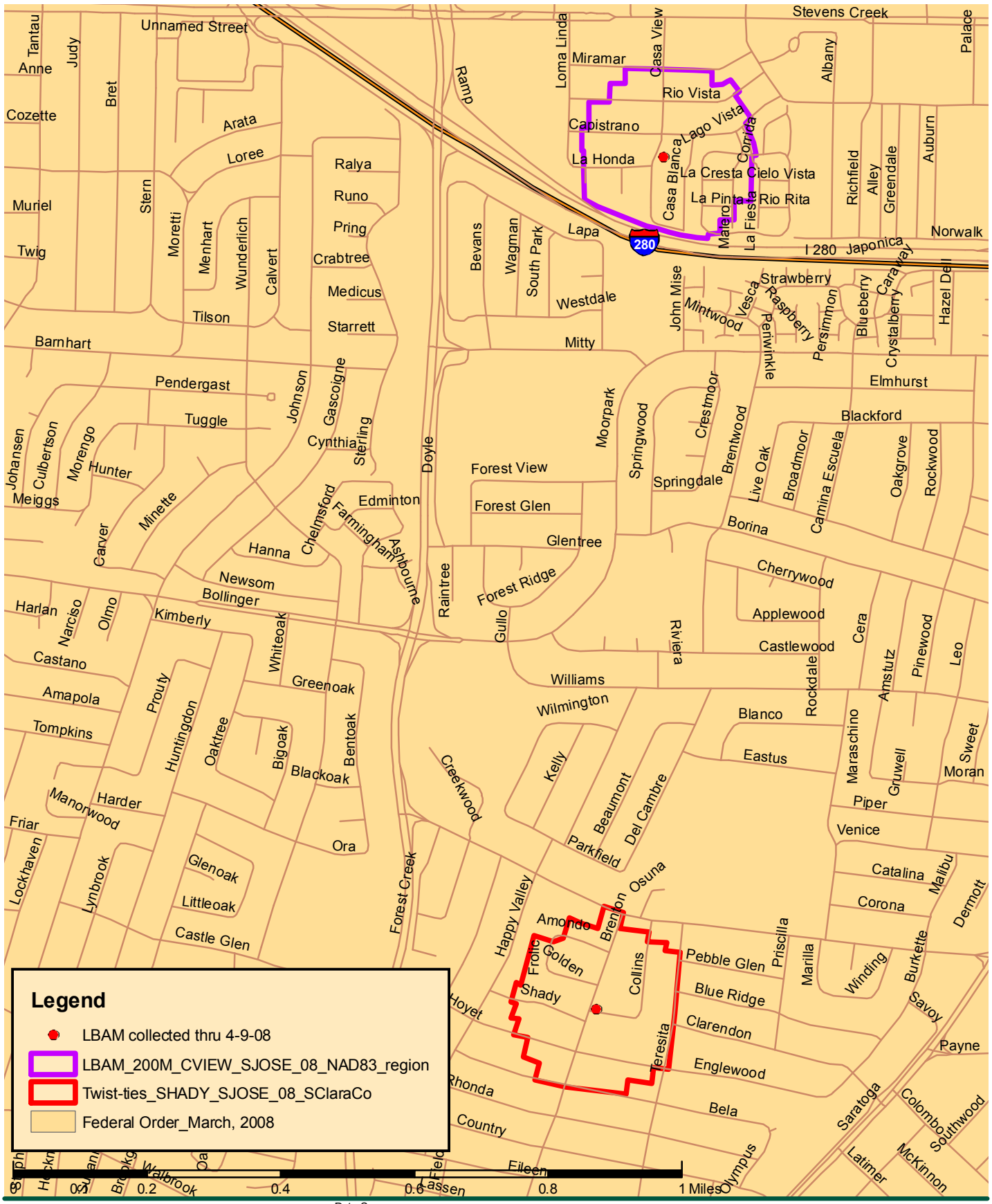
Eradication Areas for Light Brown Apple Moth
San Jose, Santa Clara Co, California - 2008

APHIS
Animal and Plant
Health Inspection Service



USDA, APHIS, PPQ
State Plant Health Director's Office
650 Capitol Mall, Suite 6-400
Sacramento, CA 95814

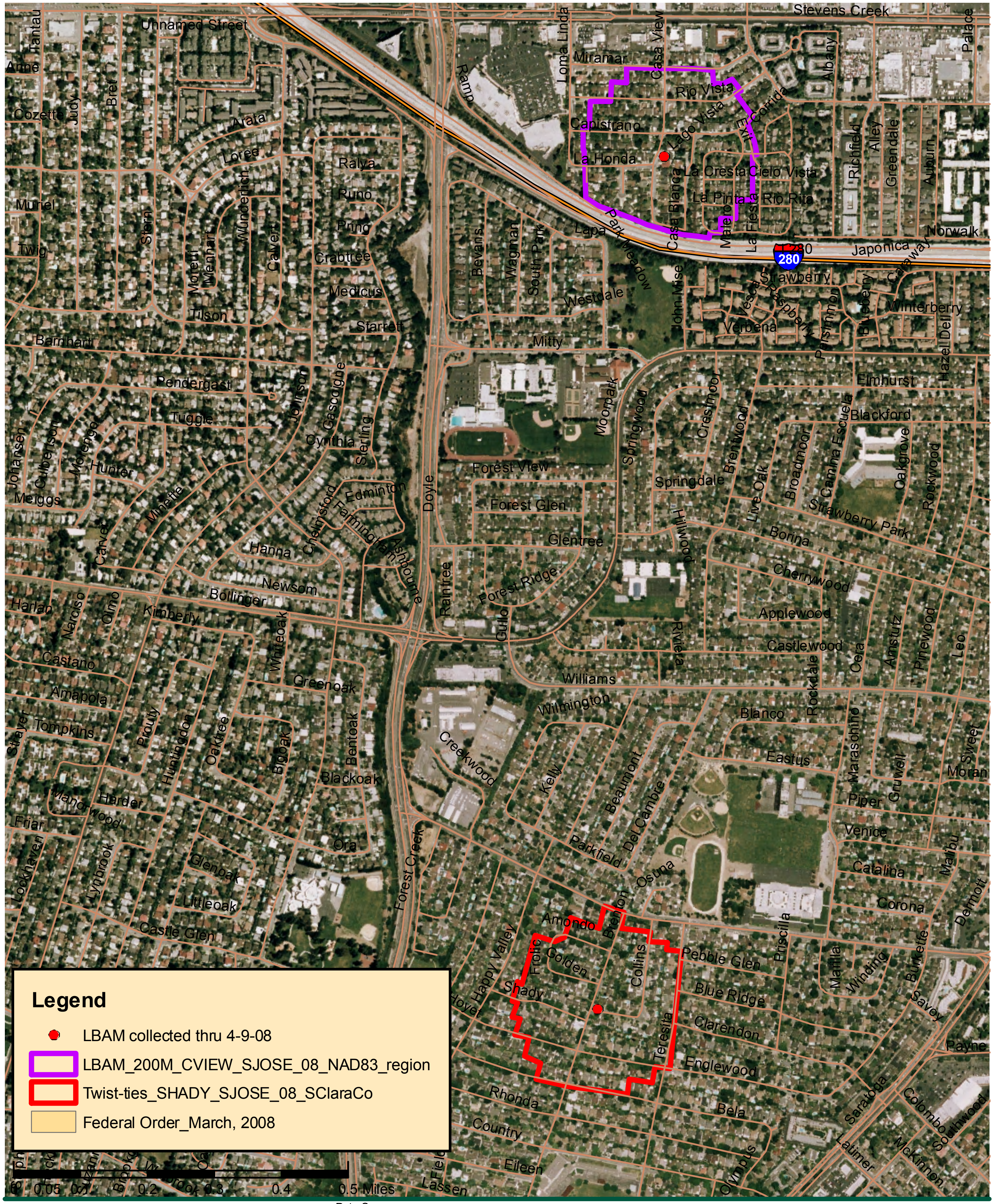
Coordinate System:
CA Teale Albers, NAD 83
Date Printed: April 10, 2008

Data Source:
CDFA - twist-tie treatment areas
USDA - Federal Order counties
TeleAtlas - roads
NAIP - satellite imagery

United States Department of Agriculture

Eradication Areas for Light Brown Apple Moth San Jose, Santa Clara Co, California - 2008

APHIS Animal and Plant Health Inspection Service



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Coordinate System:
CA Teale Albers, NAD 83
Date Printed: April 10, 2008

Data Source:
CDFA - twist-tie treatment areas
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N

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service collected the data displayed for internal agency purposes only. These data may be used by others; however, they must be used for their original intended purpose.

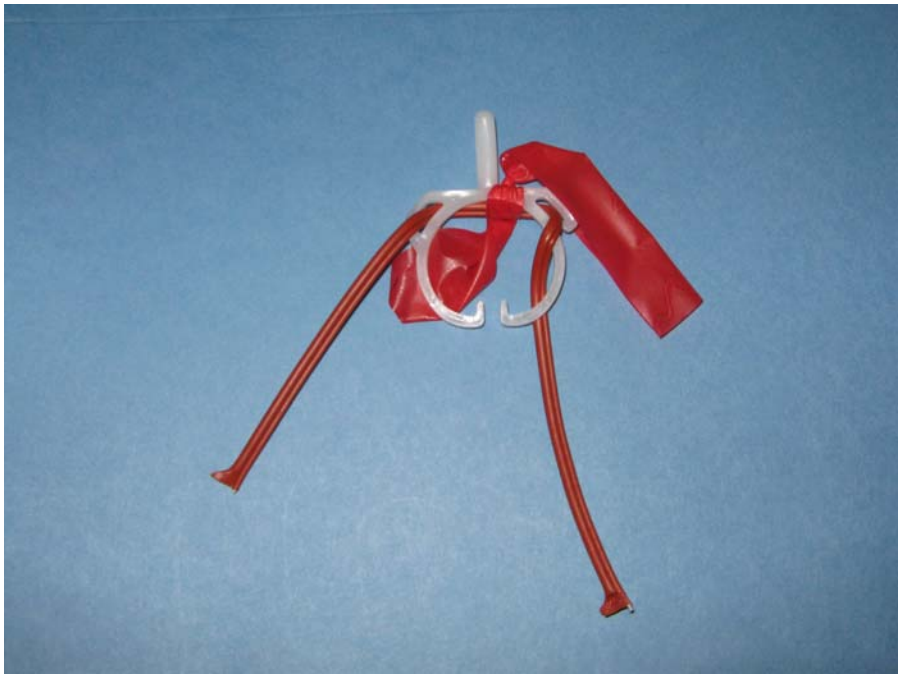
Attachment B.
Response to Comments
LBAM Twist Tie Applications

The following comments have been received regarding the placement of light brown apple moth (LBAM) twist ties. Several comments that were received were outside the scope of the twist tie application and have been added to general comments on the LBAM program which will be addressed under the programmatic LBAM response to comments.

Comment 1: The notice of availability of the FONSI was flawed.

The notice of availability for the FONSI was printed in local newspapers. The EA and FONSI are located on the APHIS website and the FONSI indicated when the comment period ended. Additionally, flyers that were sent to area residents about the twist tie application also referenced the availability of the FONSI and invited comments. In addition, a public meeting was held for residents in which the EA and FONSI were made available.

Comment 2: What does the twist tie look like?



Comment 3. How are LBAM and twist ties monitored?

The twist ties are applied in areas where there have been few LBAM adults detected using traps. The pheromone twist ties are applied in trees at 250 twist ties per acre within a 200 meter radius around each male moth find. The traps are left in the trees for two life cycles (under optimum temperature ranges, a typical life cycle will be around 6 weeks). Twist ties may remain in an isolated area for up to 6 months if needed.

Once the treatment has concluded, the twist ties will be removed and sticky traps will be used to monitor for the presence of LBAM. If additional LBAM are found within the potential treatment area there may be additional twist tie treatment sites of 200 meters surrounding the new finds. If, within a short time period (equivalent to an LBAM lifecycle) there are multiple LBAM finds within the area may no longer be considered an isolated population and other eradication methods treatments may be used.

Any resident that has experienced problems with the twist ties should contact CDFA. To date, we have not received any complaints from citizens with regards to the use of LBAM twist ties.

Comment 4. How do the twist ties mimic female moths?

Female LBAM moths will emit the LBAM pheromone when they are ready to mate. Males will be attracted to the scent and will locate the female. This scent is specific to attract only LBAM. The twist ties emit high quantities of synthetically produced female LBAM pheromone. The male moths become disoriented because they cannot clearly identify the source of the pheromone. Even if females are present, males are likely to be unable to locate them due to the ubiquitous presence of female pheromone. The twist ties are not designed to attract the male LBAM. They are designed only to confuse the male LBAM so that he cannot find a mate.

Comment 5. Are other organisms attracted to the twist ties?

The twist tie emits a specific pheromone that attracts light brown apple moths. Other animals are not attracted to the pheromone. The pheromone used in the twist ties is the same pheromone that has been used in the delimiting sticky traps. Although some other insects and moths have been found in the sticky traps there is no indication that species of moths or other insects, besides light brown apple moth are attracted to the lure. The presence of other insects is believed to be entirely incidental. Likewise, there is no evidence that the twist tie or any fixtures on the twist tie attracts birds, cats, or any other organism. Dispensers that have been placed in trees have remained in place until they have been collected after their treatment has been concluded. This indicates that no animals or people, including adults and children, have tried to remove the twist ties.

Comment 6. What makes LBAM pheromone specific compared to OLR-F which is a pheromone for tortricids? Which one will be used?

A male moth detects pheromones through sensors much like a human can detect smells in the air. The OLR-F pheromone consists of only one compound. The LBAM specific pheromone is formed by adding a second compound in a specific ratio. If the ratio is not right, LBAM are less attracted to it. Other tortricids are not attracted to the LBAM specific pheromone and therefore will not be attracted to the lure.

The LBAM specific pheromone will be used.

Comment 7. What are the inerts for LBAM twist ties?

The Isomate-LBAM twist tie contains 33.3% inert ingredients. This includes the ingredients for the twist tie itself, which is the dispenser that allows for the pheromone to be dispersed over time. APHIS cannot disclose the contents of the inert ingredients to the public based on trademark laws.

Comment 8. What are the long-term human effects of LBAM pheromones?

There are no known or anticipated impacts to human health associated with the LBAM specific pheromones. Prior to regulation by EPA, Isomate-LBAM was not required to have chronic toxicity data because adverse human effects were not expected based on studies conducted for the product which were submitted and reviewed by EPA. Straight chain lepidopteran pheromones, a class that Isomate-LBAM is a member of, have been used extensively over the years with no reportable side effects. Only one long term study has been conducted on this type of pheromone with no noticeable effects.

Comment 9. The MSDS label contains information that is of concern.

The MSDS sheet states that Isomate-LBAM should not be applied to water or areas where surface water is present. This is standard language for products that have not been tested on aquatic organisms and merely represents the standard precautionary approach to product labeling. The Isomate-LBAM twist ties will be hung in trees with the use of a hanger or other type of fixture that ensures that the twist tie will remain in place. It will not be used in water. In addition, LBAM pheromone is contained within a waxy tube which is insoluble in water.

The pheromone itself has been found to be non toxic to rats either through consumption or dermal exposure. Although it was seen as an eye irritant that cleared within 72 hours in rabbits, the exposure levels needed to produce irritation were higher than what would be contained within the tube. It also had a slight to moderate skin irritation to rabbits at higher concentrations than would be contained within one of the tubes.

The MSDS sheet specifies that if humans have been overexposed, Isomate-LBAM can be harmful if absorbed through skin and causes moderate eye irritation. This MSDS sheet is designed to provide information for workers who regularly handle the raw material of the synthetic pheromone. The pheromone twist ties come pre-filled and are encased in the waxy tube. The concentration required to be harmful if absorbed by skin greatly exceeds the amount of product contained in one twist tie.

The Precautionary Statements on EPA labels are based on chemical testing done at levels much higher than those to which the general public would be exposed. The EPA safety language is directed primarily towards workers who will be handling boxes or hundreds of twist-ties over the course of the work day. The amount of pheromone contained in each twist-tie is very small - only about 0.007 fl. ounces or 188 mg and most of it is embedded within the twist-tie so workers who apply the twist ties will only be exposed to minimal amounts. The US Environmental Protection Agency has approved the use of twist-ties. However, as with any chemical, it is

always a good and hygienic practice to avoid contact to the eyes and to wash any exposed skin with soap and water after contact.

Comment 10. What are the risks to workers?

The Isomate-LBAM Twist Ties do not require any special precautions when applying the twist ties to trees or other objects. The only precautionary language advises workers to wash their hands after applications. Although the MSDS sheet specifies under the Over Exposure Control section that Isomate-LBAM is harmful if absorbed, this statement applies to factory workers who may handle higher quantities of Isomate-LBAM. The workers who hang the twist ties are handling pre-filled dispensers and will not be directly exposed to the synthetic pheromone.

Comment 11. How long do the twist ties last?

The twist ties may last for up to 6 months, however, in practice the twist ties are removed from each location between 3 to 6 months after placement.

Comment 12. How do individuals report adverse effects?

Individuals should report any adverse health effects that they suspect are related to the LBAM twist ties to their family physician. Any other concerns regarding the LBAM twist ties should be directed to California Department of Food and Agriculture at 1-800-491-1899.

Comment 13. Will individuals have a choice of whether or not to allow LBAM twist ties on their property?

CDFA seeks permission before entering and dispensing pheromone twist ties onto private property. Individuals who do not want pheromone twist ties placed on their property will not be required to do so.

Comment 14. There was concern that the data within the Environmental Assessment was irrelevant and statements were not referenced.

Upon review of the environmental assessment, APHIS is assured that statements have been referenced properly and that the references used were relevant to the twist tie program. If someone has specific concerns about certain statements within the EA they should notify Environmental Services in APHIS at 301.734.3823.